IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

| | | |
|---|---|---|
| Appellants: Hall et al. | : | Group Art Unit: 2613 |
| Serial No.: 09/046,121 | : | Examiner: Wong, Allen C. |
| Filed: March 20, 1998 | : | Appeal No.: |

For: ADAPTIVELY ENCODING A PICTURE OF CONTRASTED COMPLEXITY
HAVING NORMAL VIDEO AND NOISY VIDEO PORTIONS

<u>Certificate of Mailing</u>

I hereby certify that this correspondence is being deposited with the U.S.
Postal Service as first class mail in an envelope addressed to: Mail Stop
Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450,
Alexandria, VA 22313, on June *03*, 2003.

Kevin P. Radigan, Esq
Attorney for Appellants
Reg. No. 31,789

Date of Signature: June *03*, 2003

Mail Stop Appeal Brief – Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**<u>Appellants' Reply Brief</u>**

Dear Sir:

This Reply Brief is being timely filed in triplicate pursuant to 37 C.F.R. §1.193(b)

in rebuttal to certain characterizations and conclusions set forth in the Examiner's Answer

mailed April 8, 2003, for the above-designated appeal.

EN998028                                        -1-

## Remarks

Initially, appellants respectfully traverse the conclusion contained at page 7, paragraph 11 of the Examiner's Answer that appellants' invention and main argument in the whole Appeal Brief is summarized at lines 3-11, page 10 of the brief. While the subject paragraph in the Appeal Brief does acknowledge appellants' recognition of a problem in the art, and a general statement as to the goal of the invention, the paragraph does not completely set forth appellants' invention as recited in the claims at issue, nor their position on the applied art as detailed more fully in the Appeal Brief.

At page 8, line 19 of the Examiner's Answer, column 16, lines 1-37 of Uz are referenced and characterized as disclosing that "... actual pictures or normal video portion contains distortion or random noise." This characterization is respectfully traversed to any extent deemed relevant to appellants' claimed invention. Appellants' invention is directed to a technique for encoding a frame in a sequence of frames. The recited encoding technique includes using intraframe statistics to determine without reference to another frame whether the frame includes a random noise portion and a normal video portion, and if so, then performing certain processing for each macroblock of that frame. A careful reading of Uz fails to uncover any suggestion or implication of a process for encoding a frame which includes determining whether the frame to be encoded includes both a random noise portion and a normal video portion. Column 16 of Uz discusses and seeks to quantify an amount of loss due to compression of a sequence of video frames. This is a statistical multiplex issue. For example, Uz describes distortion as the difference between a coded picture and the actual picture. Appellants respectfully submit that this discussion is not relevant to appellants' recited process of using intraframe statistics to initially determine without reference to another frame whether a frame to be encoded includes both a random noise portion and a normal video portion. Appellants' intraframe statistical analysis occurs on the original picture frame (i.e., before

any encoding is performed). Appellants use intraframe statistics to determine whether a frame comprises a particular type of frame that is to be specially encoded, in which case the processing steps (i)-(iii) of, for example, claim 1 are performed. Without the initial intraframe statistical analysis to determine that a particular frame to be encoded does include both a random noise portion and a normal video portion, there can be no suggestion or implication in Uz for appellants' recited process for preserving more bits for the less noisy or less complex area at the expense of the highly complex image area (i.e., the random noise portion).
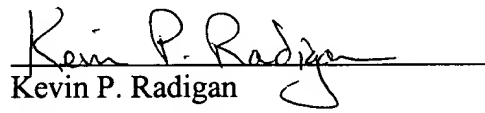
To summarize, column 16 of Uz is believed directed to a different issue than the problem addressed by the particular processing recited by appellants in the independent claims presented. The discussion of distortion does not refer to evaluating a frame to be encoded to determine whether the frame includes both a random noise portion and a normal video portion. Rather, the discussion of distortion at column 16 of Uz refers to quantifying the amount of loss resulting from the encoding process. The value is determined by comparing an encoded picture with the actual, original unencoded picture to determine the amount of lost data. Therefore, appellants respectfully traverse the conclusion in the Examiner's Answer that Uz discloses the concept of identifying a frame to be encoded as containing both a random noise portion and a normal video portion.

With respect to Resnikoff, at page 9, line 19, the Examiner's Answer equates the lower frequency information in a frequency transformation of a frame with "normal video portion" and the remaining portions of the frequency transformation as comprising "random noise portion". These conclusions are respectfully traversed. Resnikoff describes one lossy compression approach which employs linear transformation and filtering of the frequency domain coefficients to rid the transform data of high frequency coefficients. As is well known to one skilled in the art, transformation of a pixel from the spatial domain to the frequency domain results in both low frequency coefficients and

high frequency coefficients. Thus, pixels from a random noise portion of a frame would result in both low frequency and high frequency coefficients once undergoing linear transformation as taught by Resnikoff, as would pixels from a normal video portion of a frame. Thus, appellants respectfully traverse the characterization that lower frequency information comprises a normal video portion and higher frequency information comprises a random noise portion of a frame. Once in the frequency domain, the normal video portion will have both high and low frequency components, as will the random noise portion. Appellants respectfully submit that their recited process for determining whether a frame to be encoded includes both a random noise portion and a normal video portion would not have been suggested to one of ordinary skill in the art based upon the frequency domain processing of Resnikoff.

For the above-stated reasons, as well as for those set forth in the Appeal Brief, appellants respectfully request reversal of all rejections.

Respectfully submitted,

Kevin P. Radigan
Reg. No. 31,789
Attorney for Appellants

Dated: June 03, 2003

HESLIN ROTHENBERG FARLEY & MESITI, P.C.
5 Columbia Circle
Albany, New York 12203
Telephone: (518) 452-5600
Facsimile: (518) 452-5579

*AP/* *265* *270c*

| TRANSMITTAL LETTER (General - Patent Pending) | Docket No. EN998028 |
|---|---|

In Re Application of: **Hall et al.**

| Serial No. 09/046,121 | Filing Date 03/20/98 | Examiner Allen C. Wong | Group Art Unit 2613 |
|---|---|---|---|

Title: **ADAPTIVELY ENCODING A PICTURE OF CONTRASTED COMPLEXITY HAVING NORMAL VIDEO AND NOISY VIDEO PORTIONS**

**RECEIVED**

JUN 0 9 2003

Technology Center 2600

### TO THE COMMISSIONER OF PATENTS AND TRADEMARKS:
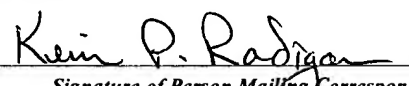
Transmitted herewith is:

**Appellants' Reply Brief**

in the above identified application.

☒ No additional fee is required.

☐ A check in the amount of                is attached.

☒ The Commissioner is hereby authorized to charge and credit Deposit Account No.   09-0457 (IBM) as described below. A duplicate copy of this sheet is enclosed.

    ☐ Charge the amount of

    ☐ Credit any overpayment.

    ☒ Charge any additional fee required.

_Signature_

Dated:    June 03, 2003

**Kevin P. Radigan, Esq.**
**Reg. No. 31,789**
**Heslin Rothenberg Farley & Mesiti P.C.**
**5 Columbia Circle**
**Albany, NY 12203**
**Telephone: (518) 452-5600**
**Facsimile: (518) 452-5579**

I certify that this document and fee is being deposited on June 03, 2003                with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

_Signature of Person Mailing Correspondence_

**Kevin P. Radigan**

*Typed or Printed Name of Person Mailing Correspondence*

CC:

P16B/REV01